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ABSTRACT

If postsecondary education is to remain viable in the years ahead, it must be cognizant of societal forces, trends, and effects as they occur in the college context and service environments. A few select examples are illustrative of a broad range of forces, trends, and effects which intrude upon the policy-making and resource allocation functions of postsecondary education. These forces include the educational revolution (quantity, equality, quality); accountability; the realization of finite resources; change in the work place; the rights movements; and the increased rate of technological and societal change. From an analysis of these trends, implications can be drawn for the planning function in general and for technical education in particular. A planning process is needed to keep technical education viable in the 1980s. Components of the planning process include planning protocol and structure, planning assumptions, goal specification, and program development. In launching a comprehensive planning process, a college must make a commitment to the personnel development component to complement these structural components. It is certain that comprehensive institutional planning must make progress from the "ad hoc" to the "planned" end of the planning continuum in the 1980s; trend analysis will be an integral part of the process. (KC)

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TREND ANALYSIS AS A COMPONENT OF COMPREHENSIVE INSTITUTIONAL PLANNING

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

> The future holds many unknowns. It also holds a range of already known choices that can be made by those making decisions about higher education.... External, particularly market, pressures will not alone lead to the best results. Internal thought, resolution, and determination are needed to assure that higher education as a whole and institutions individually reach 2000 with capacity to perform undiminished or minimally diminished by the demographic depression. The surrounding environment in the next 20 years will create some special problems that we can already see. It does not, however, determine in advance how well these problems will be solved or how inadequately human choice, or absense of choice, will settle that. A downward drift in quality, balance, integrity, dynamism, diversity, private initiative, research capability is not only possible--it is quite likely. But it is not required by external events. It is a matter of choice and not just of fate. The emphasis should be on "managing of excellence."
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> Three Thousand Futures: The Next Twenty Years for Higher Education Final Report, Carnegie Council on Policy Studies in Higher Education, Jossey-Bass, 1979.

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In the Fall of 1968, John W. Gardner, former Secretary of Health, Education and Welfare, strode to the podium at the annual meeting of the American Council on Education, and launched a double-barrelled assault on higher education for its lack of initiative in dealing with problems of urban life. He declared, "The colleges and universities of this country have not responded impressively to the urban crisis. They have been notable laggard...very few have pursued any aspect of the urban crisis with the intellectual rigor it requires. Even fewer have accepted the real world of the city on their doorstep as a laboratory in which they can advance those intellectual pursuits."

Institutions of postsecondary education are "of society." That is to say, they are created to fill a role that society has deemed necessary as it relates to its well being. Viewed in this light, post-secondary education takes its place alongside elementary and secondary

education, human services, government, housing, and transportation, as it attempts to impact on the quality of life.

The point that John Gardner was making is that if postsecondary education is truly doing its job, it has an impact on virtually every institution of society. If postsecondary education is to remain viable in the years ahead, it must be cognizant of societal forces, trends, and effects as they occur in the college context and service environment. Because our college environments are different, the analysis which follows is general. Nor is it an exhaustive analysis. Rather, the analysis contains a few select examples which are illustrative of a broad range of forces, trends, and effects which intrude upon the policy-making and resource allocation functions of postsecondary education.

The first force is the educational revolution. Francis Keppel, former United States Assistant Secretary of Health, Education and Welfare, talks about The Necessary Revolution in American Education. He states,

> The first revolution in American education was a revolution in quantity. Everyone was to be provided the chance for an education of some sort. That revolution is almost won in the schools, and is on its way in higher education. The second revolution is equality in opportunity. That revolution is under way. The next turn of the wheel must be a revolution in quality.[1]

John D. Rockerfeller III, Chairman of the Commission on Population Growth, calls for a revolution in a slightly different way. Rockerfeller's premise is that The Second American Revolution[2] seeks to establish a person-centered society to promote humanity and idealism

SELECTED FORCES, TRENDS, AND EFFECTS

FORCES	TRENDS	EFFECTS, REACTIONS, IMPACTS
Revolution in Education	Quantity to Equality to Quality Equal Access/Lifelong Learning Challenge to Testing Use of Technology Communications/Data Processing	Professional Development Programs Centers for Instructional Development Program Shifts to Accommodate "New Learners" Shift to Performance-based and Competency-based Program Formats Open Learning Systems
Accountability	Federal Legislation Government Regulations Consumer Representation Use of Courts	Loss of Public Confidence in Well Established Institutions Shift in Distribution of Power for People and Institutions Shift in Types of Services and How They are Delivered Voluntary Coordination to Involuntary Coordination Vocational Educational Data Systems (VEDS)
Finite Resources	Evolution of Systems Evolution of Planning Management Techniques	Consortia and Regional Cooperative Relations Attempt at Specifying Functional Relationships Tools - Management By Objectives (MBO) Planning, Programming, Budgeting System (PPBS) Planning, Management, Evaluation System (PME) EDUCOM Financial Planning Model (EFPM) Higher Education Management Information (HEMI) Strategic vs Operational Planning, Intramural vs Intermural
Change in Workplace	Worker Dissatisfaction Investment in Education/Training Worker Underutilization Investment in R & D - Robots Productivity - Communications /Data Processing Unionization	Emphasis on Self-responsibility, Nutritional Awareness, Physical Fitness, Stress Management, Environmental Awareness Concern for Organization Climate Programs on Holistic Health and Health Promotion 40 Million Americans Pursue a Career Transition Growth of Business in Education and Training
Rights Movement	Increased Rights Health Care Equality Economic Security	Consumer Rights; Human Rights; Civil, Women's and Gay Rights Equal Access to Quality Health Care at Reasonable Cost Right to Work, Deinstitutionalization and Rights to Rehabilitation
Change	Increased Rate	Interrelatedness, Perceptions to Cope, Forecasting

in all Americans. In his synthesis - termed the "Humanistic Revolution" - Rockerfeller offers prescriptions to create new structures and restructuring existing institutions to plan and effectuate humanistic goals. In Accent on Learning, K. Patricia Cross suggests the revolution is from "educational opportunity for all" to "educational opportunity for each."[3] Willard Wirtz indicates that we are in a revolution which is linking more closely the world of work with the world of education, a process of integrating the "learning to do" system with the doing to learn" system.[4]

This aggregate force is producing a series of trends with regard to equal access and lifelong learning. These trends, in turn, have produced a variety of effects or reactions such as professional development programs and centers for instructional development. In a recent study it was noted that more than 80 instructional improvement centers have been developed in colleges and universities during this last decade.[5] If we conceive of formal education as a lifelong process and recognize that part-time adult continuing education and open-learning systems (including open entry, career ladder, and open exit options) are the order of the day, then we have to conceive our educational programs within that frame of reference.

A second major force is accountability. This elusive force has caused some persons to refer to our time as "The Age of Product Liability" or "The Age of Truth in Packaging." This aggregate force is producing several trends in federal legislation, government regulations and consumer representation in an effort to make higher education more responsive to unmet societal needs. While it is not altogether clear whether the first item listed under reactions is cause or effect, there has been a significant change in public confidence

in well established functions. This alarming lack of faith in a wide variety of American institutions is displayed in the General Social Survey made by the National Opinion Research Center in September 1975. A critical analysis of this report suggests that the greatest loss of confidence occurred in organized religion and education.

Accountability manifests itself in several ways. During recent years Americans have become concerned about the "return" on their investment in the college experience. Demands for accountability from tax payers, primarily through state legislatures, and the rising cost of tuition provide cause to ask, "Is support of postsecondary education worth the time and money in terms of the individual and value added to society?" Several researchers have presented data about the benefits of college for individuals and the returns to society in general.[6] The research evidence indicates clearly that the college experience raises your level of knowledge and cognitive powers; increases personal self-discovery and psychological well-being; enhances traits such as adaptability; and positively affects your earning ability. The research evidence indicates the college experience makes you more careful in child raising, more efficient consumers, better users of leisure time, and healthier. The research also indicates that the college experience contributes to greater interest in politics and community affairs, that it helps to produce more responsible citizens and provides professional leaders who improve social conditions. Research and evaluation must, however, go beyond the benefits of college for individuals and society in general. Research must include more in the way a specific institution or system impacts upon the quality of life in a region or state.

Other effects the accountability force is having upon our institutions include major shifts in power among people and institutions.

H.E.W. officials estimate at least 40 packages of regulations were needed to carry out the Education Amendments of 1976 alone.[7] The Vocational Educational Data Systems (VEDS) is but one example. Boston Children's Hospital president Leonard Cronkhite painted a gloomy picture of American medicine increasingly menanced and strangled by the burgeoning tentacles of a runaway federal bureaucracy gone mad, as he stepped down as chairman of the Association of American Medical Colleges during the association's annual meeting in 1976. Cronkhite asserted, "Big government has erected an enormous bureaucratic structure which in terms of its growth rate and invasiveness, has many of the characteristics of a malignancy. It devours major assests under the banner of frugality. It is ambiguous and unwieldly. It appears uncontrollable and has become a fourth branch of government with far more autonomy than the other three. Most importantly, it has failed miserably in the control of costs."[8]

Another force is the realization of finite resources. In higher education the signs of this force include the number of persons seeking a postsecondary education experience, the practical limits of tuition increases, and the inflationary nature of our labor-intensive industry. Because, in part, of finite resources, postsecondary education has begun to show concern for planning and management techniques for the more efficient and effective operation of the corporate enterprise. This has resulted in the evolution of systems in postsecondary education and an emphasis on consortia and regional approaches. A comparative study of 37 regional plans in 24 states is presented in a monograph entitled Regionalism and Statewide Coordination of Post-secondary Education.[9] Data are beginning to appear about the Benefits of Collegiate Cooperation.[10]

Another trend that has resulted from this force is a beginning evolution of planning. In health care, the Hospital Survey and Construction Act of 1946, was one of the first major efforts to bring a rational and systematic focus to health care delivery system planning. For the past thirty years there has been continual refinement in the federal legislation relative to health care and education planning. The "Health Planning and Resource Development Act of 1964" (P.L. 93-641 and P.L. 96-79) charges Health Systems Agencies to deal with issues that require coordination with academic health science centers. The "Health Professions Educational Assistance Act of 1976" (P.L. 94-484) outlines broad areas of responsibility for the health professions that requires coordination between postsecondary education, health professions and a wide range of agencies. The functional relationships are not clearly defined at the present time and their development will be a slow process of evolution.

One effect of this force has been to help clarify concepts such as strategic and operational planning and intramural and intermural planning. Another effect of this force have been the development of tools to help manage organizations. These tools include Management By Objectives (MBO); Planning, Programming, Budgeting System (PPBS); Planning, Managing, and Evaluation (PME) System; EDUCOM Financial Planning Model (EFPM); and Higher Education Management Information (HEMI). These tools have several characteristics in common including (1) clarification of mission, essential purposes, and goals of the enterprise; (2) a data based planning process;[11] (3) an assessment of the external and internal environments;[12] (4) a linking of fiscal resources to goals and objectives; and (5) a personnel development component[13] to complement the structural component.

Changes in the workplace[14], trends in worker dissatisfaction, productivity[15], worker underutilization[16], and investment in research and development[17] are worthy of our analysis. Investment of business and industry in education and training is of particular interest.

Postsecondary education at one time stood as the giant oak as the primary source of knowledge/information generation and transmission. Postsecondary education had exclusive right on a monopoly. Since an early study published in 1961 by the American Council on Education, business and industry has become involved in education and training in a big way.[18] An article in the October 1978 issue of the American Association of Higher Education Bulletin[19] begins as follows:

> An extensive education and training system exists in private industry and government. The National Conference Board, for example, reports that in the single recession year of 1975 the nation's 7,500 largest private employers spent over $2 billion on employee education--as much as the recent annual totals of all contributions from all sources to colleges and universities. And while college and university-based education is stabilizing and/or declining, the training and development sector in business, industry, and government is expanding rapidly.
>
> Several years ago Kenneth Boulding gave us a warning by drawing an analogy between higher education and that other industry in decline--the railroads. The problem, he said, was that railroad managers did not view themselves as part of a larger transportation system, but simply as manager of an isolated segment, the railroads.

An article in The New York Times[20] begins as follows:

> Last year the American Telephone and Telegraph company spent $700 million on education programs for its employees, or more than three times the $213 million annual budget of the Massachusetts Institute of Technology.
>
> Sixteen courses run by McGraw-Hill for its employees have been approved for college credit by the New York State Department of Education. At Honeywell, Inc., in Minneapolis more than 3,500 employees enrolled this year in 183 courses ranging from solar heating and cooling to women in business.

The introduction to an article in the May 1980 issue of the Training and Development Journal[21] is as follows:

> Industry spends on employee education more than six times the amount appropriated by all the states for all of higher education! If money is power, then industry occupies a power position in continuing education.
>
> Industry is not only a major consumer of continuing education provided by others, it is also a major provider of continuing education, with large "in-house" training staffs and facilities. If competition is conflict, then industry is a source of conflict in continuing education, competing directly with other providers and pitting provider against provider as bidders for its continuing education dollars.
>
> Robert Kost points out that industry's principal objective in continuing education is pragmatic: Continuing education should provide skills and knowledge that will improve employees' capabilities and be reflected in the quality of their performance and in their productivity. But industry is not so pragmatically profit-oriented that its concept of continuing education is totally restricted to task-related training; there is considerable support for Quality of Work Life programs, and the liberal arts as well as industrial arts.
>
> Industry, Kost says, wants to cooperate with educational institutions, yet is not receiving the response it expects from academic sources, which is surprising in view of the widely-held assumption that such sources are securing college-credit equivalents, and some programs are even securing degree-granting accreditation.

The relationship between technological developments and shifts in business and industry is also of interest. This point is made in a recent labor-backed study that contends that an epidemic of plant shutdowns is sweeping the nation, with companies moving factories and leaving behind a trail of human and community devastation. The study reports that between 1969 and 1976, plant shutdowns and relocations eliminated 15 million jobs and created 16.4 million new ones,[22] a slight net increase overall. The new jobs on an average, however, were lower-paying and in different regions of the country and did not go to people who were left unemployed by shutdowns in the first place.

Changes in the workplace include imbalances in types of manpower supply and demand. An assembly sponsored by the American Association of Community and Junior Colleges, the American Vocational Association, and the American Society for Training and Development called for a drive to end the shortage of skilled workers and recommended several specific recommendations:[23]

> The federal government should establish a policy on the development of human resources that designates lifelong education and training as an "absolutely necessary national investment."
>
> President Carter should call a White House conference to draw attention to the need for a national policy designed to increase the productivity of workers and to decrease unemployment.
>
> The new Department of Education should promote more communication between educational institutions and business on manpower issues.
>
> The major national associations concerned with occupational education and training should establish pilot projects to demonstrate that-together-education, business, and industry can produce skilled workers.
>
> A national program to define job markets and provide information on which to base cooperative training and education programs.
>
> A national commitment to continuing-education programs that would help workers upgrade their skills and attitudes and train for new positions.
>
> "Education-delivery systems," such as competency-based instruction, that allow students to enter and transfer to or from any high-school, post-high-school, military, labor, or industrial education program.
>
> A program to identify and publicize "effective working relationships" that education and industry have already established.

No discussion about changes in the workplace would be complete without reference to technological advances and the development of robots. A robot" is a programmable, computer-controlled machine that can be manipulated to do difficult work faster than a human being and with less chance for error and imperfection. Moreover, robots can go where men can't go (or are forbidden to go, as to weld inside a car body). Robots also aren't known to complain about air

or noise pollution. And they don't talk back to shop stewards, demand raises, or go out on strike."[24] The world population of robats used in industrial manufacturing is 17,500. Of these, 2,000 are in Europe, 2,500 are in the U.S., and 13,000 in Japan.[25] The world is on the threshold of bursting developments in robots through the addition of microprocessor "brains" that allow them to switch their programs automatically and the acquisition of touch and a sense of sight through TV cameras.

Changes in the higher education workplace deserve some comment. After a long period of expansion in higher education and business and industry, opportunity in teaching and research have contracted sharply. Many persons completing the Ph.D. and hoping for research positions are turning to teaching positions for which they may be ill prepared. Oversupply of trained individuals in selected fields of study results in limited mobility and the infusion of new energy and idea. A major task is to help design new careers for those persons who reluctantly find themselves working in positions in which they find little satisfaction.[26]

Undersupply of trained individuals is equally disruptive to systematic growth in a program. Rapid turnover of personnel makes it extremely difficult to chart a course of action for a particular program and sustain it over time. With the projected decline in the number of high school graduates and the erosion of fiscal resources, many institutions turn to part-time faculty as a means of continuing programs.

While some of the changes in the workplace are attributible, in part, to oversupply and undersupply, there is also the issue of incentives. A study of the changing workplace led Daniel Yankelovich to conclude:

> No question will dominate the work place in the 1980s more than how to revamp incentives to match the new motivations of workers. Today, millions who do hold paid jobs find the present incentive system so unappealing that they are no longer motivated to work hard. As a consequence, not only do they withdraw emotional involvement from the job, they also insist upon steady increases in pay and fringe benefits to compensate for the job's lack of appeal.

Rosabeth Moss Kanter indicates that a growing number of people work for self-fulfillment in addition to economic necessity, but that noneconomic incentives may increase in importance.[27] Noneconomic benefits go beyond the traditional range of fringe benefits of health, dental, and even legal insurance. Noneconomic benefits include such things as flexible scheduling and opportunity in terms of advancement, challenge, increase in influence, and skill development.[28] Opportunity, however, is structured. There are paths and tracks which are often fuzzy.

The issue of productivity in higher education lies, in part, in organizational socialization practices and programs, how college personnel learn what work is valued in the organization, how personnel manifest effective performance, and how they become a loyal and committed member.[29] There is little research data with regard to how organizational socialization depends on personnel variables (e.g., aptitudes, motivation, gender), group variables (e.g., structure and composition of work groups, peer group phenomena, leadership), and organizational factors (e.g., incentives, disincentives, career paths, education and training programs, role clarity, communication, and feedback patterns).

There is growing evidence that educated workers do not like to be organized from the top.[30] Creativity and imagination, tools of the information development and processing industry, cannot be

organized so readily from the top down. Norman Macrae, the deputy editor of the London Economist, predicts organizations of the future will consist of "Confederations of Entrepreneurs."[31] Whatever the long range design, it appears incontrovertible that for the 80s that the personnel development component within an organization must be parallel in sophistication and non-contradictory in design to the institution's planning and management system. And, if they are, concurrently developed personnel and structural components are mutually supportive and increase the effectiveness of each far beyond the capability of either.[32]

An examination of the rights movement is also in order, particularly the right to work. Changes in the economy are linked directly to dislocations and unemployment which in turn are linked to health. The federal government has become relatively adept since World War II at assessing the linkages between fiscal and monetary policy and economic variables like unemployment. More recently, however, the impact of economic policy on individual behavior has been studied. One researcher reports, "The 1.4 percent rise in unemployment during 1970 has cost our society nearly $7 billion in lost income due to illness and mortality, and in added state prison and mental hospital outlays. To this must be added public outlays of some $2.8 billion annually over the 1970 to 1975 period for jobless and welfare payments associated with the sustained 1.4 percent rise in unemployment."[33] Studies like this one provide support for the "right to work" revolution and consumer participation in governmental policy formation.[34] Periodic and systematic publicly-funded retraining of workers as an economic necessity could be a major challenge for industry, government, and higher education in the eighties.[35] The policy issues are complex

in that a "Youth Program May Cut Adults' Job Prospects."[36] A study by the Worldwatch Institute indicates that "massive labor migration is a symptom of a world economy that is fundamentally askew, an economy in which gross income disparities both within and among countries persist."[37] These data provide ample reason to monitor the investment in research and development and its impact on the economy and occupational/technical education.[38]

The right to work carries with it the right to training. In a recent issue of Education Update, the AFL-CIO indicated that "One of the most pressing problems in labor education is to determine educational needs of union members."[39] At the first Business-Higher Education Forum conducted by the American Council on Education it was concluded that "Universities and colleges lack sensitivity to the product and manpower needs of industry and business."[40] This weakness was stated by the head of the American Association of Community and Junior College as follows:[41]

> An awareness of the needs of persons in the college area requires a stance unfortunately sometimes lacking in educators or provided for in institutional structures. One of the biggest problems facing education may be a reluctance (or inability) for people in education to relate on a regular basis with people in business, industry, the unions, and agriculture. A note sounded repeatedly as one talks with people about educational needs is that they perceive schools and colleges as 'self-contained enclaves of educators'.

Change is another major force that intrudes upon society. Alfred North Whitehead characterized the rapid rate of change in 1930 as follows:[42]

> The pace of change is accelerating at such a rate that a number of major cultural revolutions will from here on take place during a single lifetime. And under this condition, it is no longer functional to define the purpose of education as the transmission of the culture. Its purpose now must be to produce lifelong learners.

Buckminster Fuller has stated, "Because of the acceleration of our technological development, the next ten years will be equivalent to the last five million."[43] Dean Rusk has stated, "The pace of events is moving so fast that unless we can find some way to keep our sights on tomorrow, we cannot expect to be in touch with today."[44] Anthropologist Bernard G. Campbell described change in the following question, "How could a being who was a hunter-gatherer a few million years ago suddenly find itself capable of going to the moon."[45]

Edward Cornish provides some perceptions on how to cope with rapid change:[46]

1. The future is not fixed, but consists of a variety of alternatives among which we can choose those we want to realize.
2. Choice is necessary. Refusing to choose is itself a choice.
3. Small changes through time can become major changes.
4. The future world will probably be drastically different in many respects from the present world.
5. People are responsible for their future; the future doesn't just happen to them.
6. Methods successful in the past may not work in the future due to changed circumstances.

A problem of the rapid rate of change is the difficulty of predicting the outcome of an event with some degree of accuracy.[47] This phenomena can be seen in the forecasts of several persons:

> In 1926, the man whose invention ultimately led to the development of the TV tube said: "...commercially and financially I consider (television) an impossibility, a development of which we need waste little time dreaming."
>
> And in 1945, a famous American naval officer said: "That is the biggest fool thing we've ever done...the (atomic) bomb will never go off, and I speak as an expert on explosives."
>
> And in 1948, a respected science magazine said: "Landing and moving around the moon offers so many serious problems for human beings that is may take science another two hundred years to lick them."

Analysis of phenomena in retrospect is much easier as can be seen in the 1976 statement by Paul Lyet, President of Sperry Rand. He said, "If aviation had evolved at the speed of computers, Neil Armstrong would have walked on the moon less than a year after the Wright brothers took off from Kitty Hawk."

Prior to the seventies, most leaders in business and education were able to plan the future by picking a trend and riding it. Basically, the data stayed constant long enough to do that. During the seventies, the number of variables increased faster than the number of constants. Some of these variables, such as the changing roles of women, are less easily quantified. Last year, according to the Bureau of Labor Statistics, nearly 62 percent of women with school-age children were working and 45 percent with pre-school children had jobs. When women enter the work force, their self-image changes drastically, and their desire for education goes up exponentially.[48] The societal revolutions of equal rights and equal educational opportunity has accessed to postsecondary education a wider range of human variability than at any other time in history. This range will increase in the years ahead as some of the 40 million Americans pursue a career transition,[49] states send professionals back to the classroom,[50] colleges specify an agenda to respond to lifelong learning needs during adulthood,[51] and institutions begin to fill the missing link of connecting adult learners to learning resources.[52]

As indicated earlier in this document, the intent of this partial analysis of selected forces, trends, and effects is to provide a conceptual framework for examining major changes in the larger societal context or environment and, from that analysis, state implications for the learning society for the planning function in general and for technical education in particular.

What is described in the paragraphs which follow is a planning process for keeping technical education viable in the eighties. It is a model designed to obtain input from a wide range of sources. The description of the planning process attempts to deal with the structural component and the personal development component. The model is generalized to the diversity within the 1,234 two-year colleges in this nation.[53a] The material covers (1) reasons to plan; (2) stages of organization development; (3) stages of sophistication in planning; (4) structural components of the planning process; and (5) the personnel development component.

Emphasis on broad-based strategic and tactical system-wide and institutional planning is largely a phenomenon of the seventies.[53b] The intrusion of a wide range of forces such as the revolution in education, increased accountability, finite resources, and change in the workplace have provided the impetus for this phenomenon. The value placed on planning varies inversely with the availability of resources.[54] If it takes more resources to operate the college than is available, than a more efficient and effective method of management must be developed and implemented. Reasons to plan are as follows:

1. To make the organization more responsive to community/societal needs.
2. To provide a means for setting goals and objectives to which purposeful human activity can be linked.
3. To bring rationality and equity to the resource allocation decision making process of relating people, dollars, and time to goals and objectives.
4. To improve management efficiency and effectiveness.
5. To reduce risk in selected areas and functions within the organization.
6. To demonstrate accountability to sponsors - taxpayers, students, and clients.

7. To allow for measurement of progress toward goals and objectives and an assessment of outcomes in terms of

   (a) output from the organization and
   (b) impact on community/societal needs

Organizations pass through various stages of growth and development. These stages have been characterized as (1) emergence, (2) growth, (3) maturity, (4) regeneration, and (5) decline.[55] It is becoming increasing clear that the strategies an organization uses are influencial by its position in a development sequence. There is a paucity of citations in the literature dealing with higher education management development. This is due, possibly, to the dissimilarity between higher education management and business management.[56] It would seem logical, however, that the managerial style best suited to the current environment is also a function, in part, of the stage of organizational development. Theories of organizational functioning and human effectiveness were reviewed to produce the Management Development and Training Program for Colleges and Universities, a program endorsed by the American Association of Community and Junior Colleges.[57] Although time will not permit a detailed discussion about stages of organizational development and managerial style, suffice it to say that both elements have a bearing upon the planning function.

The evolution of planning is worthy of some comment. William A. Shoemaker, former Vice President for Research for the Council for the Advancement of Small Colleges, developed a list of "College Personnel Attitudes and Planning Practices" as a result of extensive involvement in an Institutional Research and Planning Project (1972-75) and the Planning and Data System Project (1975-79). His list begins with status quo and incrementalism attitudes, moves through multi-year

fiscal planning and institutional research practices, and extends to the systematic and informed collegial model. A program conducted by John D. Millett, Executive Vice President for the Academy for Educational Development, is an elaboration of the systematic and informed collegial model. During the three calendar years 1976 through 1978, AED undertook a project to assist selected colleges and universities in the management of change.[58] The model calls for specification of external environmental assumptions such as (1) social expectations, (2) economic trends, (3) demographic trends, and (4) governmental planning as well as the specification of internal assumptions relating to (1) educational purposes, (2) quality standards, (3) desirable enrollment size, (4) relationship to location, and (5) assessment of available resources. From these two sets of assumptions are derived the statement of mission, goals and objectives for output and support programs, foundation plans, budgets, and the evaluation plan.

Although the planning process has numerous components, this discussion will emphasize (1) planning protocol and structure, (2) planning assumptions, (3) goal specification, and (4) program development. First, there is a planning protocol. Some persons(s) at an institution have responsibility for planning various aspects of the institution and they will follow some procedure in doing whatever it is they will do. How they do whatever they do should follow an agreed-upon set of steps. Next, there is the need to develop a planning structure. Most institutions have some sort of structure for coordinating the ongoing activities of the institution. The structure may be quite simple, with a minimum number of persons participating in the decision-making process, or it may be quite

complex involving a number of review committees and several levels of review boards. Reagrdless of complexity, there must be some structure for planning.

Second, there must be some way for stating and achieving concensus by appropriate groups on external and internal assumptions about the institution. A project by the American Association of State Colleges and Universities uses societal trends and societal values as a way of planning futures and bringing planning assumptions into focus. The project uses a cross-influence matrix of 12 societal trends and 12 values to determine goals in 10 areas. The 12 societal trends are population, government, global affairs, environment, energy, economy, science and technology, human settlements, work, life style, women and participation. The 12 societal values are change, freedom, equality, leisure, foresight, pluralism, localism, responsibility, knowledge, quality, goals, and interdependence. The 10 goal areas are finance, students, research and development, public service, facilities, faculty, curricula, administration, resources, and athletics.[59]

Several institutions have made excellent progress with the Futures Creating Paradigm including Indiana State University, Indiana University of Pennsylvania, the University of Maine at Farmington, Boston State College, and Valley City State College. Two other models worthy of examination include the University of Wisconsin and West Virginia University. Wisconsin is a state-wide model with the coordinating unit and individual campuses participating in specifying assumptions. The West Virginia University model includes assumptions and objectives.[60]

North Central Technical College reviewed a number of planning models. The College defined the term "assumption" and generated a list of categories for arraying assumptions. The definition of assumption is as follows:

> An assumption is a proposition describing future conditions, some of which the institution has little control over. The level of certainty assigned to an assumption determines the level of precision it is allowed in subsequent planning. The greater the uncertainty about the assumption the greater must be the range of flexibility/hedging/options the institution retains against the non-assumed condition. Raising the certainty level of an assumption yields greater planning precision, better long term goal effectiveness and improved cost efficiency and program effectiveness. A planning assumption proposition can be internal to the institution or external to it. One criterion which is used in making a decision about inclusion or exclusion of a specific proposition at the institutional or cost center levels rests on whether or not the assumption has a direct bearing on setting goals and objectives at that level.

The list of categories for stating assumptions is as follows:

1. Assumptions about the societal context within which NCTC exists.
2. Assumptions about external agencies
3. Assumptions about institutional leadership/management
4. Assumptions about NCTC programs (existing and potential)
5. Assumptions about potential students and enrollment
6. Assumptions about student services
7. Assumptions about staffing and professional development
8. Assumptions about physical plant
9. Assumptions about equipment
10. Assumptions about fiscal resources

Planning assumptions about the societal context in which an institution exists can focus on such issues of health, energy,

transportation, lifelong training, quality of worklife, leisure, credentializing such as licensure and certification and program and institutional accreditation. Planning assumptions about external agencies can focus on the relationship between an institution and state and local governance, higher education as a system, articulation, and communication. Planning assumptions about existing and potential programs include new credit and non-credit programs growing out of needs analysis or market segmentation studies, use of advisory committees, and instructional development and support. Selected examples of institutional assumptions are as follows:

It is assumed that equal educational opportunity as a right of all persons will be a dominant theme of federal and state legislation in the years ahead. This will mandate a focus on "packaging" higher education programs as we shift from the 20th century goal of "education for all" to the 21st century goal of "education for each". It will necessitate careful attention to remedial education, programs to overcome academic deficiencies as well as developmental education, programs to develop the diverse talents of students.

We have moved from an era of thinking about education as something given in the early years of youth and lasting throughout life to thinking about education as occurring throughout a life span." It is assumed this trend will continue as an increasing number of Americans anticipate job or career changes, states mandate continuing professional education, and lifetime learning is viewed as a basic social right as well as an economic necessity.

The United States is likely to retain an unchallengeable competitive advantage only in products and techniques that are at the very forefront of technological development or that require a high integrated market for their creation.

It is assumed the process by which policy decisions are made will undergo agonizing changes with the erosion of institutional autonomy and a gradual shift of authority to state and regional coordinating agencies, and legislative bodies. This action will be accompanied by lobbying activities.

It is assumed that the procedure for measuring educational accomplishments will change in dramatic ways. The system of amassing largely time-related academic units to reach the required total for a degree will yield to different output measures related to levels of competency in reference to designated bodies of knowledge and sets of skills.

Sources of trends and assumptions are numerous. In 1967, the Institute of Life Insurance conducted a Future Outlook Study to assess significant social and political trends because it seemed clear that reactive styles were not appropriate in times of rapid change. One result of the Future Outlook Study was a call for an ongoing mechanism to be established by which the business could keep abreast of emerging ideas and social changes that might affect its operating environment. In 1970, an early-warning system called the Trend Analysis Program (TAP) was designed and put into place. TAP continues to operate as a program of the American Council of Life Insurance, formed in 1976 by a merger of the Institute of Life Insurance and the American Life Insurance Association. TAP has produced reports on Aging and the Aged; The Employee; The Life Cycle; The International Scene; Frontier Technologies: Part One - Science and Health; Frontier Technologies: Part Two - Information Science; A Culture in Transformation: Toward A Different Societal Ethic; Transportation; Changing Residential Patterns and Housing; Planning; Death, Dying and Life Extension; and The Changing Nature of Work. TAP is useful as a model in that the screening function is carried out by over one hundred life insurance executives who monitor almost one hundred periodicals.[61]

Another major source of trends and assumptions information is the Work in American Institute, Inc., a nonprofit organization founded in 1975 to advance productivity and the quality of working life. The Institute's Studies in Productivity include reports on Mid-Career Perspectives: The Middle-Aged and Older Population; Productivity and the Quality of Working Life; Trends in Product Quality and Worker

Attitude; Managerial Productivity; Worker Alienation; Human Patterns of Work; New Patterns of Work; Occupational Stress and Productivity; Redesigning Work: A Strategy for Change; Jobs and the Environment; and Changing Attitudes Toward Work.[62]

Other major sources of trend and assumption information include Trends 2000 - New Challenges, New Needs, New Images: America in Transition;[63] priorities for future technology assessment;[4] Alternative Scenarios of the American Future;[65] The Exciting 80's: A Kiplinger Forecast for the Next Decade;[66] Productivity in the Changing World of the 1980's;[67] Science and Technology: Annual Report to the Congress;[68] The Surgeon General's Report; Healthy People;[69] professional association activities such as the AACJC 1979 Assembly on Lifelong Education and priorities for postsecondary occupational education as developed by the AACJC Council for Occupational Education; and national studies on topics relevent to our colleges such as Vocational Education and Training: Impact on Youth;[70] National Longitudinal Study of 1972;[71] Project Talent;[72] and The Planning Papers for the Vocational Education Study.[74]

During 1977-78, most of the focus was on developing the protocol and structure for planning and setting goals and objectives and relating dollars to them. During 1978-79, a great deal of time was spent on specifying assumptions at the institutional level and refining goals and objectives and the way dollars are assigned to them. During 1979-80, most of the emphasis was upon clarification of assumptions at the departmental/technology level and the relationship between assumptions and goals and objectives. A critical analysis of information obtained through a structured process is a means for developing alternative scenarios of the future. The process helps to add clarity

to goals and objectives. The process of specifying assumptions is to diagnosis as the derivation of goals is to development. The derivation of organizational and individual goals and objectives is the creative heart of the process.

In launching a comprehensive planning process, a college must make a commitment to the personnel development component to complement the structural components described in the preceeding paragraphs. The philosophy of a college in adopting a collegial, participatory mode of management is based on underlying assumptions such as (1) humans are the most important educational resource of the organization; (2) talents and skills of individuals within the organization must be cultivated systematically; (3) persons to be effected by plans and decisions should have a role in making them; (4) involvement in planning leads to a meaningful investment of time and a commitment on the part of the participants; and (5) collaborative goal setting represents a way of working toward solutions, rather than trying to escape from irreconcilable problems.

In summary, some planning is a characteristic and pervasive behavior of all human beings and organizations; it is the hallmark of what we call rationality. If we were to draw a line to represent the possible range of ways an organization might make its decisions, one end of it would be called Ad Hoc and the other end Planned. In the Ad Hoc mode, decisions are made one-by-one according to the mood and judgment of the decisions makers, unrestrained by plan or even precedents. In the Planned mode, every decision is wholly constrained by a previously adopted plan. There are, in practice, few examples of these perfect extremes. Somewhere between these two extremes is where most organizations are in their planning. It would appear

certain that comprehensive institutional planning must make progress toward the Planned end of the continuum in the 1980s and that trend analysis will be an integral part of the process.

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